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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,453	07/29/2003	Jack D. Keene	RIBO-001/04US 308729-2034	5725
58249 7590 07/25/2008 COOLEY GODWARD KRONISH LLP ATTN: Patent Group Suite 1100 777 - 6th Street, NW WASHINGTON, DC 20001			EXAMINER MARVICH, MARIA	
			ART UNIT 1633	PAPER NUMBER
			MAIL DATE 07/25/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Allowability

Application No.

10/629,453

Examiner

MARIA B. MARVICH

Applicant(s)

KEENE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an after final filed 5/19/08.
2. ☒ The allowed claim(s) is/are 30-38 and 40-62.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

DETAILED ACTION

The previous action mailed 6/25/08 has been vacated and replaced in its entirety in this action. This office action is in response to an amendment filed 10/1/04.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Konstatin Linnik on 6/19/08.

The application has been amended as follows:

IN THE SPECIFICATION:

The priority data has been amended to read: In the specification, page 1, line 1,

--RELATED APPLICATIONS

This application is a divisional of copending U.S. Patent Application Serial No. 09/750,401 filed December 12, 2001, now Patent No. 6,635,422, which claims priority to U.S. Provisional Patent Application Serial No. 60/173,338 filed December 28, 1999. --

IN THE CLAIMS:

30. (Currently amended) A method of identifying an endogenous mRNA subset[[s]] in a cell comprising an mRNA-protein (mRNP) complex, comprising the steps of:

- (a) lysing ~~a the cell comprising an mRNA-protein (mRNP) complex~~ to produce a lysate;
- (b) contacting the lysate with an antibody that specifically binds at least one component of the mRNP complex;
- (c) partitioning the mRNP complex by ~~capturing~~ binding the antibody ~~on to~~ a solid support; (d) removing the ~~captured~~ bound mRNP complex from the lysate; and
- (e) identifying a plurality of mRNAs from the mRNP complex without amplifying the mRNAs by PCR, wherein the identified mRNAs are encoded by a plurality of distinct genes and wherein the identified mRNAs form the endogenous mRNA subset in the cell.

In claim 37 insert the phrase --at least one-- prior to “component of the” and delete the word “captured” following this phase and insert the word --bound--.

In claim 43 insert the article --a-- prior to the term “plant cell”.

In claim 45 delete the number "30" following the phrase "method of claim" and insert the number --37--.

48. (Currently amended): A method of identifying an endogenous mRNA subset[[s]] in a cell, comprising the steps of:

- (a) expressing an epitope-tagged RNA-binding protein or an epitope-tagged RNA-associated protein (RAP) in ~~a~~ the cell, thereby forming an mRNP complex;
- (b) lysing the cell to produce a lysate;
- (c) partitioning the mRNP complex by ~~capturing~~ binding the RNA binding protein or the RAP ~~on~~ to a solid support;
- (d) removing the ~~captured~~ bound mRNP complex from the lysate; and
- (e) identifying a plurality of mRNAs from the mRNP complex without amplifying the mRNAs by PCR, wherein the identified mRNAs are encoded by a plurality of distinct genes and wherein the identified mRNAs form the endogenous mRNA subset in the cell.

58. (Currently amended) The method of claim 48, wherein ~~the mRNP complex is contacted with~~ the epitope-tagged RNA-binding protein is expressed in the cell.

In claim 62 insert the article --a-- prior to the term “plant cell”.

EXAMINER'S AMENDMENT

The following is an examiner's statement of reasons for allowance. The instant application teaches methods of *in vivo* selection of physically clustered mRNA subsets associated with RNA binding or RNA associated proteins. The specification teaches that many of these mRNA subsets are also functionally associated with particular cellular conditions and

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hence monitoring alterations in the subsets following compound treatment, aging, differentiation, development and disease state may be characteristic of particular diseases. The closest prior art is Giordano et al (US 5,859,227 and WO 98/37422), which teaches method of identifying compounds that modulate interactions between RNA binding proteins and RNA molecules in a sample such as a cell or tissue extract. The methods of Giordano et al measure the interaction by use of filter binding as well as gel shift mobility. In contrast, the instant method involves isolating cellular mRNP complexes by immunoprecipitation such that associated subsets of RNA can be identified without further steps of amplification or iterative selection. While methods of immunoprecipitation of RNA binding proteins are known in the art, the instant invention recognized that immuno- precipitated RNA binding proteins comprises subsets of RNA that could be removed and directly identified and quantitated. Hence, the instant method advances the prior art by providing a method of measuring changes in functionally critical subsets of mRNA *in vivo* by isolation of associated RNA binding or associated proteins and direct analysis of the associated mRNAs.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIA B. MARVICH whose telephone number is (571)272-0774. The examiner can normally be reached on M-F (7:00-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Woitach, PhD can be reached on (571)-272-0739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Maria B Marvich, PhD
Primary Examiner
Art Unit 1633

/Maria B Marvich, PhD/
Primary Examiner, Art Unit 1633